



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

APR 27 2017

David Martinson
City of Unalaska
PO Box 610
Unalaska, AK 99685

Dear Mr. Martinson:

Enclosed is an Incidental Harassment Authorization (IHA) issued to the City of Unalaska, under the authority of section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*), to harass small numbers of marine mammals, by Level B harassment, incidental to the Unalaska Marine Center Dock Replacement Project from April 28, 2017 through April 27, 2018.

You are required to comply with the conditions contained in the IHA. In addition, you must submit reports to the National Marine Fisheries Service's (NMFS) Office of Protected Resources within 90 days of its completion. The IHA requires monitoring of marine mammals by qualified individuals before, during, and after pile driving and vibratory removal activities and reporting of marine mammal observations, including species, numbers, and behavioral modifications potentially resulting from this activity.

If you have any questions concerning the IHA or its requirements, please contact Shane Guan, Office of Protected Resources, NMFS, at 301-427-8401.

Sincerely,

Donna S. Wieting
Director, Office of Protected Resources

Enclosures



Printed on Recycled Paper





INCIDENTAL HARASSMENT AUTHORIZATION

The City of Unalaska (COU) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to dock construction activities in Dutch Harbor, Alaska, contingent upon the following conditions:

1. This Incidental Harassment Authorization (IHA) is valid from April 28, 2017 through April 27, 2018.
2. This IHA is valid only for pile driving and removal activities associated with construction of the Unalaska Marine Center (UMC) dock in Dutch Harbor, Unalaska, Alaska.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the COU, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking are the harbor seal (*Phoca vitulina*), Steller sea lion (*Eumetopias jubatus*), humpback whale (*Megaptera novaeangliae*), and killer whale (*Orcinus orca*).
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b). See Table 1 (attached) for numbers of take authorized.
 - (d) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (e) The COU shall conduct briefings between construction supervisors and crews, marine mammal monitoring team, and the COU personnel prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
4. Mitigation Measures

The holder of this Authorization is required to implement the following mitigation measures:

- (a) Establishment of shutdown zone



- (i) For all vibratory pile driving activities except vibratory installation of 30" steel pile, a 10-meter (m) radius shutdown zone shall be employed for all species observed. For vibratory installation of 30" steel pile a 15-m radius shutdown zone shall be employed.
 - (ii) For impact pile driving, a shutdown zone shall be determined and implemented based on the the number of piles to be driven that day as follows: If a maximum of five piles are to be driven that day, shutdown during the first driven pile shall occur if a marine mammal enters the '5-pile' radius. After the first pile is driven, if no marine mammals have been observed within the '5-pile' radius, the '4-pile' radius shall become the shutdown radius. This pattern shall continue unless an animal is observed within the most recent shutdown radius, at which time that shutdown radius shall remain in effect for the rest of the workday. Shutdown radii for each species, depending on number of piles driven, are as follows:
 - 5-pile radius: humpback whale, 400 m; killer whale, 15 m; harbor seal, 215 m; Steller sea lion, 15 m
 - 4-pile radius: humpback whale, 340 m; killer whale, 15 m; harbor seal, 185 m; Steller sea lion, 15 m
 - 3-pile radius: humpback whale, 280 m; killer whale, 10 m; harbor seal, 150 m; Steller sea lion, 10 m
 - 2-pile radius: humpback whale, 215 m; killer whale, 10 m; harbor seal, 115 m; Steller sea lion, 10 m
 - 1-pile radius: humpback whale, 135 m; killer whale, 10 m; harbor seal, 75 m; Steller sea lion, 10 m
 - (iii) A shutdown shall occur prior to a marine mammal entering a shutdown zone appropriate for that species and the concurrent work activity. Activity shall cease until the observer is confident that the animal is clear of the shutdown zone: The animal shall be considered clear if:
 - It has been observed leaving the shutdown zone; or
 - It has not been seen in the shutdown zone for 30 minutes for cetaceans and 15 minutes for pinnipeds.
 - (iv) If shutdown lasts for more than 30 minutes, pre-activity monitoring (see below) shall recommence.
 - (v) If the exclusion zone is obscured by fog or poor lighting conditions, pile driving shall not be initiated until the exclusion zone is clearly visible. Should such conditions arise while impact driving is underway, the activity shall be halted.
- (b) The Level A and Level B harassment zones shall be monitored by qualified observers before, during, and after all in-water construction activity. If a harbor

seal, Steller sea lion, killer whale, or humpback whale is observed entering the Level B harassment zone (1,000 m for impact pile driving; 3,300 m for vibratory pile driving) during pile driving activities, the sighting will be documented as a potential Level B take and the animal behaviors shall be documented. The observers shall be authorized to shut down construction activity if pinnipeds or cetaceans are observed approaching or within the shutdown zone of any construction activities.

- (c) Pre-Activity Monitoring – Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, the observer shall observe the shutdown and Level B zones for a period of 30 minutes. The shutdown zone shall be cleared when a marine mammal has not been observed within zone for that 30-minute period. If a marine mammal is observed within the shutdown zone, a soft-start (described below) cannot proceed until the marine mammal has left the zone or has not been observed for 15 minutes (for pinnipeds) and 30 minutes (for cetaceans). If the Level B harassment zone has been observed for 30 minutes and non-permitted species are not present within the zone, soft start procedures can commence and work can continue even if visibility becomes impaired within the Level B zone as indicated in 4(b). If the Level B zone is not visible while work continues, exposures shall be recorded at the estimated exposure rate for each permitted species. If work ceases for more than 30 minutes, the pre-activity monitoring of both zones must recommence.
- (d) If any marine mammal species other than those listed in condition 3(b) enters or approaches the Level B zone as indicated in 4(b), all activities shall shut down.
- (e) Use of Soft Start:
 - (i) Soft start procedures shall be used prior to pile removal, pile installation, and in-water fill placement to allow marine mammals to leave the area prior to exposure to maximum noise levels. For vibratory hammers, the soft start technique shall initiate noise from the hammer for short periods at a reduced energy level, followed by a brief waiting period and repeating the procedure two additional times. For impact hammers, the soft start technique shall initiate several strikes at a reduced energy level, followed by a brief waiting period. This procedure shall also be repeated two additional times.
 - (ii) Equipment used for fill placement shall be idled near the waterside edge of the fill area for 15 minutes prior to performing in-water fill placement.
- (f) In-Water or Over-Water Construction Activities - During in-water or over-water construction activities having the potential to affect marine mammals, but not involving a pile driver, a shutdown zone of 10 m shall be monitored to ensure that marine mammals are not endangered by physical interaction with construction equipment. These activities shall include, but are not limited to, the positioning of the pile on the substrate via a crane (“stabbing” the pile) or the removal of the pile

from the water column/substrate via a crane ("deadpull"), or the slinging of construction materials via crane.

- (g) Sound attenuation devices (e.g., air bubble curtains, pile caps, or other attenuating device) shall be used during all impact pile-driving activities.
- (h) Vessel Interactions - To minimize impacts from vessels interactions with marine mammals, the crews aboard project vessels shall follow NMFS's marine mammal viewing guidelines and regulations as practicable.
(<https://alaskafisheries.noaa.gov/protectedresources/mmv/guide.htm>).

5. Monitoring and Reporting

The holder of this Authorization is required to report all monitoring conducted under the IHA within 90 calendar days of the completion of the marine mammal monitoring.

(a) Visual Marine Mammal Monitoring and Observation:

The COU shall collect sighting data and shall record behavioral responses to construction activities for marine mammal species observed in the project location during the period of activity. All marine mammal observers (MMOs) shall be trained in marine mammal identification and behaviors and are required to have no other construction-related tasks while conducting monitoring. The COU shall monitor the exclusion zone (shutdown zone) as provided in 4(a)(ii) and Level B harassment zone as provided in 4(b) before, during, and after pile driving, with observers located at the best practicable vantage points (See Figure 3 in the Marine Mammal Monitoring Plan for the observer locations planned for use during construction). Based on our requirements, the Marine Mammal Monitoring Plan shall implement the following procedures for pile driving:

- (i) During observation periods, observers shall continuously scan the area for marine mammals using binoculars and the naked eye. Observers will work shifts of a maximum of four consecutive hours followed by an observer rotation or a 1-hour break and will work no more than 12 hours in any 24-hour period.
- (ii) Observers shall collect data including, but not limited to, environmental conditions (e.g., sea state, precipitation, glare, etc.), marine mammal sightings (e.g., species, numbers, location, behavior, responses to construction activity, etc.), construction activity at the time of sighting, and number of marine mammal exposures. Observers will conduct observations, meet training requirements, fill out data forms, and report findings in accordance with this IHA.
- (iii) During all observation periods, observers shall use binoculars and the naked eye to search continuously for marine mammals.

- (iv) If the exclusion zone is obscured by fog or poor lighting conditions, pile driving shall not be initiated until the exclusion zone is clearly visible. Should such conditions arise while impact driving is underway, the activity would be halted.
- (v) Observers shall implement mitigation measures including monitoring of the shutdown and monitoring zones, clearing of the zones, and shutdown procedures.
- (vi) Observers shall be in continuous contact with the construction personnel via two-way radio. A cellular phone shall be used as a back-up form of communications and for safety purposes.
- (vii) Individuals implementing the monitoring protocol shall assess its effectiveness using an adaptive approach. MMOs will use their best professional judgment throughout implementation and seek improvements to these methods when deemed appropriate. Any modifications to protocol shall be coordinated between NMFS and the COU.

(b) Data Collection:

- (i) Observers are required to use approved data forms. Among other pieces of information, the COU shall record detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any. In addition, the COU shall attempt to distinguish between the number of individual animals taken and the number of incidents of take. At a minimum, the following information shall be collected on the sighting forms:
 - a. Date and time that permitted construction activity begins or ends;
 - b. Weather parameters (e.g. percent cloud cover, percent glare, visibility) and Beaufort sea state.
 - c. Species, numbers, and, if possible, sex and age class of observed marine mammals;
 - d. Construction activities occurring during each sighting;
 - e. Marine mammal behavior patterns observed, including bearing and direction of travel;
 - f. Specific focus should be paid to behavioral reactions just prior to, or during, soft-start and shutdown procedures;
 - g. Location of marine mammal, distance from observer to the marine mammal, and distance from pile driving activities to marine mammals;

- h. Record of whether an observation required the implementation of mitigation measures, including shutdown procedures and the duration of each shutdown; and
- i. Other human activity in the area. Record the hull numbers of fishing vessels if possible.

(c) Reporting Measures

(i) Annual Report:

A draft report shall be submitted within 90 calendar days of the completion of the activity. The report shall include information on marine mammal observations pre-activity, during-activity, and post-activity during pile driving days, and shall provide descriptions of any behavioral responses to construction activities by marine mammals and a complete description of any mitigation shutdowns and results of those actions, as well as an estimate of total take based on the number of marine mammals observed during the course of construction. A final report shall be submitted within 30 days following resolution of comments from NMFS on the draft report. The report shall include at a minimum:

- General data:
 - Date and time of activity
 - Water conditions (*e.g.*, sea-state)
 - Weather conditions (*e.g.*, percent cover, percent glare, visibility)
- Specific pile driving data:
 - Description of the pile driving activity being conducted (pile locations, pile size and type), and times (onset and completion) when pile driving occurs.
 - The construction contractor and/or marine mammal monitoring staff will coordinate to ensure that pile driving times and strike counts are accurately recorded. The duration of soft start procedures should be noted as separate from the full power driving duration.
 - Detailed description of the sound attenuation system utilized, including the design.
 - Description of in-water construction activity not involving pile driving (location, type of activity, onset and completion times)
- Pre-activity observational survey-specific data:
 - Date and time survey is initiated and terminated
 - Description of any observable marine mammals and their behavior in the immediate area during monitoring
 - Times when pile driving or other in-water construction is delayed due to presence of marine mammals

within shutdown zones.

- During-activity observational survey-specific data:
 - Description of any observable marine mammal behavior within monitoring zones or in the immediate area surrounding the monitoring zones, including the following:
 - Distance from animal to pile driving sound source.
 - Reason why/why not shutdown implemented.
 - If a shutdown was implemented, behavioral reactions noted and if they occurred before or after implementation of the shutdown.
 - If a shutdown was implemented, the distance from animal to sound source at the time of the shutdown.
 - Behavioral reactions noted during soft starts and if they occurred before or after implementation of the soft start.
 - Distance to the animal from the sound source during soft start.
- Post-activity observational survey-specific data:
 - Results, which include the detections and behavioral reactions of marine mammals, the species and numbers observed, sighting rates and distances,
 - Refined exposure estimate based on the number of marine mammals observed. This may be reported as a rate of take (number of marine mammals per hour or per day), or using some other appropriate metric.

(ii) General Notifications:

- (a) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner not authorized by the IHA, such as a Level A harassment, or a take of a marine mammal species other than those authorized, the COU would immediately cease the specified activities and immediately report the incident to Jolie Harrison (*Jolie.Harrison@noaa.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and Mandy Migura (*Mandy.Migura@noaa.gov*), Alaska Stranding Coordinator.

The report would include the following information:


- Time, date, and location (latitude/longitude) of the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;

- Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with the COU to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The COU would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

- (b) In the event that the COU discovers an injured or dead marine mammal, and determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition), the COU shall immediately report the incident to Jolie Harrison (*Jolie.Harrison@noaa.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and Mandy Migura (*Mandy.Migura@noaa.gov*), Alaska Stranding Coordinator. The report would include the same information identified in the paragraph above. Construction related activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the COU to determine whether modifications in the activities are appropriate.
- (c) In the event that the COU discovers an injured or dead marine mammal, and determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the COU shall report the incident to Jolie Harrison (*Jolie.Harrison@noaa.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and Mandy Migura (*Mandy.Migura@noaa.gov*), Alaska Stranding Coordinator, within 24 hours of the discovery. The COU shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. The COU can continue its operations under such a case.

6. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.


Donna S. Wieting
Director
Office of Protected Resources
National Marine Fisheries Service

APR 27 2017

Date

Table 1. Authorized Take Numbers.

Species	Level A Injury Takes	Level B Harassment Takes	Total
Steller sea lion	0	926	926
Harbor seal	0	470	470
Killer whale	0	88	88
Humpback whale	0	176	176

